

PSYCHE

VOL. 57

DECEMBER, 1950

No. 4

THE GENERIC NAMES FOR TABANIDAE (DIPTERA) PROPOSED BY ADOLFO LUTZ¹

By G. B. FAIRCHILD²
University of Minnesota

Beginning in 1905, Dr. Adolfo Lutz published a considerable number of papers on South American Tabanidae, mainly the Brazilian fauna. He had evidently intended to monograph the fauna, and did treat the *Pangoniinae*, the *Diachlorini* and the genera *Dichelacera*, *Stibasoma* and *Acanthocera* in a thorough way. His other publications on the family consisted mostly of local lists, descriptions of new species, and short papers outlining his views on the generic classification of the Neotropical species.

In his papers of a monographic or revisional nature, Dr. Lutz appears to have well understood the rules governing zoological nomenclature, and new names appearing in these publications are for the most part validly proposed. In his papers on general classification and in his local lists, however, which he seems to have considered of a preliminary nature, it appears that he did not realize that the names he was using were then appearing for the first time and would have to be taken into consideration by subsequent students. In many cases these names were so casually proposed, either without adequate definition or without valid included species, and almost always without bibliographic reference, that it has proven very difficult to come to a decision on their validity. In other cases, it has been difficult to decide on the year in which a certain name, published as new on several occasions, was validated.

¹Paper No. 2455 of the Scientific Journal Series, Minnesota Agricultural Experiment Station, St. Paul 1, Minnesota.

²On leave of absence 1949-1950 from Gorgas Memorial Laboratory, Panama, Republic of Panama.

Several students have attempted to clarify these matters, notably Bequaert (1924) who selected genotypes of many of Lutz' genera and Borgmeier (1933) who, with better access to Lutz' published works, corrected the dates of first appearance of some of his names and added others overlooked by previous workers. Enderlein (1922, 1925) and Kröber (1932, 1934) have used a number of Lutz' names, and placed a good many more in synonymy, in some cases without adequate consideration.

In spite of these efforts, however, no complete listing of Lutz' generic names has appeared, nor has the status of a number of them ever been carefully examined in the light of the International Rules of Zoological Nomenclature. The present paper is an attempt to do this. I have seen, I believe, all of Lutz' publications, except one, which contain new generic names for Tabanidae, though there is always the possibility that others will turn up. Carlos Chagas (1925, 1929, 1934) published a list, with supplements, of Lutz' published works on all subjects numbering over 200, but even it contains some errors and omissions. His papers dealing, in whole or in part, with Tabanidae number 27, of which about 17 contain matter of nomenclatorial importance. I have appended a list of all his papers containing references to Tabanidae of which I have knowledge, but there may be others.

Lutz appears to have published, alone or jointly, 43 generic names. Some of these were variants in spelling or new names to replace preoccupied names, but 32 seem to refer definitely to newly defined groups of generic or subgeneric rank. All these names are here listed, together with references to their first appearance in print and remarks on their validity. I have not attempted to show synonymies except in a few undoubted cases, as generic and subgeneric concepts in Tabanidae are still in a rather fluid state.

The most difficult point to settle is the status of the names published in the 1909c list. This publication is an illustrated brochure or guide book giving a description of the physical plant and investigations being undertaken by the Instituto Oswaldo Cruz. It also contains lists of the collections, publications, and library. It bears no date other than the year, and no authorship. In the list of Tabanidae, 15 new generic names are proposed, being indicated by "nov. gen." or "n. gen." in all cases. 13 of these appear with valid specific names, and, although the International Rules are somewhat loosely worded on this point, I believe, ignoring other considerations,

they are thereby validated. In regard to the authorship, it is now well known that Lutz was the author of this list. It is doubtful if he realized that the names appearing therein were being published in the nomenclatorial sense as he never subsequently referred to this paper although he consistently used the names proposed therein. He himself gave me my copy, and the whole list, with minor changes, was republished in 1911a, where the new genera are all credited to Lutz, according to Borgmeier. I have not been able to secure a copy of this paper, but it seems to have been also in the nature of a guidebook to the exhibit of the Instituto Oswaldo Cruz at some sort of international scientific exposition.

The difficulty in accepting these names as of 1909 lies not only in a lack of definitions, (which is of less importance, as the names were published before 1930, when the rules on this point were modified), but in the dubious character of the publication itself. The pamphlet is anonymous, it is not a periodical, nor any regular form of scientific publication, and there is much probability that it was never intended or offered for sale, though it may have had wide distribution. There is, thus, strong reason for considering that the names appearing in it were not validly published and are hence unavailable as of that date. If this stand be taken, the next chronological appearance of the names must be considered. This was the 1911a paper, which seems to have suffered from all the faults of its predecessor except anonymity. (The Pangoniinae may be excluded from further consideration, as the new genera of this division were all validly proposed with definitions or species in recognized journals in 1909, so that they date from this year in any case). If the 1911a paper be excluded from consideration nomenclatorially, the next in chronological order is 1912, where *Dicladocera*, although not defined as a genus, is accompanied by the description and figure of a valid species in a nomenclatorially acceptable publication. The difficulty here is that this species, *unicolor* Lutz, appears not to be congeneric with the species previously included, as Bequaert and Rengifo (1947 Psyche, 53 [3-4]:68) have pointed out, necessitating the use of Enderlein's *Dasychela* for the species placed by Lutz in *Dicladocera*.

Lutz' 1913a paper validates *Stigmatophthalmus* and adds *Himantostylus*. Then, also in 1913, comes the first exposition of Lutz' scheme for the classification of the Tabaninae. Here appear all the remaining names of the 1909c list, plus four additional new ones. They are not formally proposed as new genera and are not ac-

accompanied by specific names or references to previous publications, but they are recognizably defined by being placed in a key. They appear in an acceptable publication and would seem certainly available nomenclatorially as of this date. This paper was published twice, the first time above, and a year later, 1914b, where it is accompanied in parallel columns by a German translation, a common custom at that time in this journal. I can find no changes whatever in the later edition. Between the appearances of these two "editions", the 1914a paper appeared. In lists of species all the remaining 1909c names appear and are accompanied by valid specific names except *Macrocormus* while several of the names first published in 1913 are here accompanied by valid specific names for the first time. *Macrocormus* does not appear with a valid specific name in an acceptable publication until 1918, where it is listed as "*T. (Macrocormus) rubescens* Bigot" and "*Macrocormus sorbillans*".

It is thus seen that if the names appearing in the 1909c and 1911a papers are not considered nomenclatorially available as of these dates, they became available in 1913 when they were defined, or in 1912, 1914, or 1918 when they were accompanied by valid specific names. This change in dates appears to affect but two of these names, *Di cladocera*, which changes its sense as mentioned above and *Neotabanus* which becomes a homonym of *Neotabanus* Ricardo 1911 (Rec. Ind. Mus. 4:363, Type *N. ceylonicus* Ric. 1911). No new proposal of name for *Neotabanus* Lutz is necessary, since *Taeniotabanus* Kröber 1930 (Dipt. Pat. S. Chile P. 140, Type *T. occidentalis* Linn.) is already available. In any event the group is hardly of subgeneric rank and may eventually prove undefinable.

The author has hitherto been inclined to take a liberal view of the case and accept the 1909 dating, though for the sake of forestalling possible future controversy, it might be well to adhere to a stricter interpretation of the rules and accept 1913 as the date for these names.

Amphichlorops, Lutz 1909c, p. 29, with *A. flavus* Wied., and *A. variegatus* n. sp. 1913b, defined in key. 1914a, with *flavus* Wied., Type *T. flavus* Wied. 1828 (Bequaert 1924).

Bombylopsis Lutz 1909a, p. 31, with *nitens* (Bigot), *? analis* (Fab.) and *leonina* n. sp. 1909b, p. 646, with *erythronotata* Big., *pseudoanalis* n. sp., *analis* Fab. 1805 and *leonina* n. sp. 1909c, p. 28, with *erythronotata* Big., *? analis* Fab. and *leonina* n. sp. Type *erythronotata* Big. (Borgmeier 1933).

Bombylomorpha Lutz 1911a, p. 33, with *erythronotata* Big., *pseudonalis* n. sp., *analisis* Fab. and *leonina* n. sp. Type *erythronotata* Bigot (Borgmeier 1933).

Bombylomyia Lutz 1911b, p. 69 with *B. splendens* n. sp. descr. *Bombylopsis* changed to *Bombylomyia*. 1914a with *nitens* Big. The status of these names is confusing. *Bombylomorpha* and *Bombylomyia* may have been created to replace *Bombylopsis*, thought to be preoccupied. I have been unable to find that this name is preoccupied and Lutz and Castro 1936 have reverted to its use. The selection of *erythronotata* Big. as type of *Bombylopsis* is incorrect, as it was not included in the original publication. The only species available as genotype for *Bombylopsis* is *nitens* Bigot 1892 and it is here selected. Since both *Bombylomyia* and *Bombylomorpha* were substitute names, they take the same genotype. *Ionopsis* or *Ionopsis* (q.v.) will fall as a synonym, as it has the same genotype. There is no need to replace the latter name until it becomes clear that the concept it was intended to cover is needed.

Catachlorops 1911a. emendation of *Katachlorops* (q.v.).

Chelotabanus 1913b, p. 5, in key, no species. 1914a, p. 72, with *fuscus* Wied., *impressus* Wied., *aurora* Macq., *cinerarius* Wied. 1918 with *aurora* and *impressus*. See *Odontotabanus*. Type *I. fuscus* Wied. 1819 (Bequaert 1924).

Chlorotabanus 1909c, p. 30, with *mexicanus* L. 1913b, in key, no species. 1914a, with *mexicanus* L. 1911a, with *mexicanus* L. Type *T. mexicanus* L. 1767 (Bequaert 1924).

Chrysochiton Lutz and Castro, 1936, with *auricinctus* (Lutz and Neiva) *bocainensis* n. sp., *nubiapex* (Lutz) and *rubrithorax* (Kröb.). Type by original designation, *Erephopsis auricinctus* Lutz and Neiva 1909.

Cryptotylus 1909c, with *unicolor* Wied. 1911a with *unicolor* Wied. 1913b defined in key (*Chryptotylus*). Monotypic for *T. unicolor* Wied. 1828 (Borgmeier 1933).

Dicladocera 1909c, p. 29, with *immaculata* Macq., *furcata* Wied. (*macrodonta* Macq.), *potator* Wied., *guttipennis* Wied., *macula* (*scutellata*) Macq., *luctuosa* Macq. and *rufipennis* Macq. 1911a, p. 34, with same species. 1912, with *D. unicolor* Lutz n. sp. descr. 1913b, defined in key (*Dicladocera*.) Type *T. guttipennis* Wied, 1828 (Enderlein 1922). The designation of *unicolor* Lutz by Bequaert (1924) and his subsequent restriction

- (1946 p. 68) rest on the assumption that Lutz' 1909c names were invalidly published. See introductory discussion above.
- Dyspangonia* 1905, p. 22. defined and with *fuscipennis* Wied., *clari* n. sp., *fasciata* Macq., *lugubris* Macq., *ferruginea* Macq. 1909b p. 625=*Esenbeckia* Rond. Type *Pangonia fuscipennis* Wied. 1828 (Bequaert 1924).
- Epipsila* 1909b, p. 648 with *erimera* Macq. and *erimeroides* n. sp. descr. Type *E. erimeroides* Lutz (Enderlein 1925).
- Himantostylus* 1913a, p. 183, defined and with *intermedius* n. sp. descr. Monotypic (not *Himanthostylus* Borgm. 1933).
- Ionopsis* 1909c, p. 28 with *nitens* n. gen. (sic) and *Foetterlei* n. sp. 1909b, p. 650 defined and with *nitens* Bigot and *Foetterlei* n. sp. described (*Ionopis*). The spelling will depend on which of these publications appeared first. Neave's Nomenclator gives *Ionopis*, while Borgmeier (1933) maintains that *Ionopsis* was the original spelling. Type *nitens* Bigot 1892 (Enderlein 1925). The type species was originally included in *Bombylopsis* Lutz 1909a (q.v.) which has some months priority.
- Katachlorops* 1909c, p. 29, with *fuscipennis* Macq., *rufesceus* Fab. *intereuns* Walk., *capreolus* Wied. and *bitinctus* Walk. 1911a, p. 34. with same species. 1913b, defined in key only (*Cathachlorops*, *Gatachlorops*) Type. *Dichelacera fuscipennis* Macq. 1847 (Bequaert 1924). The emended spelling *Catachlorops*, has largely prevailed.
- Laphriomyia* 1911b, p. 70. defined and with *mirabilis* n. sp. descr. The erroneous variant *Laphriopsis* appears on p. 71. 1911a p. 34 (*Laphromyia*) Monotypic for *L. mirabilis* Lutz 1911.
- Leptotabanus* 1914a, p. 72, with *nigrovenosus* Lutz in list of Tabanidae from Xerem. 1918, in list only, no authority. 1921, in list only, no authority. The species seems never to have been described, though it is possible that *Melanotabanus fuliginosus* Lutz and Neiva (q.v.) was based on the same specimen. It is described in the same paper from a single specimen from Xerem, Rio de Janeiro, and the authors state in the paragraph preceding their list of Tabanidae from Xerem that the list includes a new species based on one specimen from Xerem. *Leptotabanus nigrovenosus* is the only new species in this list. Since the name is invalid, a nomen nudum, as listed by Neave, it does not preoccupy *Leptotabanus* Kröber 1931 as believed

by Miller (1945), who proposed the unnecessary name *Neoleptotabanus* (Proc. Roy. Ent. Soc. London (B) 14:72).

Leucotabanus 1913b, defined in key. 1914a, p. 71, with *leucaspis* Wied. in list. 1914b, defined in key. Type *Tabanus leucaspis* Wied. 1828 (Bequaert 1924)).

Macrocormus 1909c, p. 29, with *badius* n. sp. *sorbillans* Wied., *pseudosorbillans* n. sp. and *trizonophthalmus* n. sp., 1911a, p. 35 with same species. 1913b, defined in key. Type *Tabanus sorbillans* Wied., 1928 (Bequaert 1924).

Melanotabanus 1914a, p. 76. defined and with *fuliginosus* n. sp. described. Monotypic.

Micropangonia 1922, p. 5, defined briefly by comparison with *Erephopsis*. Said to contain two species, but none named. I believe this to be a *lapsus* for *Neopangonia* Lutz (q.v.) as the characters mentioned (open first posterior cell, long proboscis and small size) are those used earlier to separate *Neopangonia* from "*Erephopsis*". Since the name could be construed as having been defined, and hence valid, I hereby select *Neopangonia pusilla* Lutz 1909 as genotype, as it agrees with the definitions, thus making *Micropangonia* a synonym of *Neopangonia*.

Microtabanus 1922, p. 9, defined only by having unicolorous eyes and being small. No species. This can hardly be construed as a "definition" under the rules, and I consider the name invalid and not preoccupying *Microtabanus* Fairchild 1937.

Myiotabanus 1928, p. 59, with *sarcophagoides* n. sp. descr. and fig. Although there is no statement that the genus is proposed as new, it is combined with a valid specific name and I believe should be considered valid. Monotypic.

Neopangonia 1909b, p. 651, defined and with *pusilla* n. sp. descr. and fig. Monotypic. See also *Micropangonia*.

Neotabanus 1909c, p. 29, with *trilineatus* Latr., *modestus* Wied. and 16 other named species. 1911a, with same species. 1913b, defined in key. 1914a, with *obsoletus* Wied., *comitans* Wied., *ixyostactes* Wied., *ochrophilus* Lutz, *triangulum* Wied., *trilineatus* Latr. and others in list. Type *Tabanus trilineatus* Latr. 1814 (Bequaert 1924).

Odontotabanus 1918 Lutz, Araujo and Fonseca, with *aurora*, *cinerarius*, *fuscus*. 1926 Bequaert, Exped. Amazon, p. 233, cited

- in synonymy with *aurora*. Lutz 1928, p. 56-57, with *cinerarius* Wied., *testaceus* Macq., *olivaceiventris* Macq., and *importunus* Wied. in list. Type *aurora* Macq. 1838 (Borgmeier 1933). Doubtfully distinct from *Chelotabanus*; Lutz used both names interchangeably in 1918.
- Orthostylus* 1914a, p. 74, defined and with *ambiguus* n. sp. descr. Monotypic. Preoccupied. See below.
- Orthostyloceras* Lutz in Borgmeier 1933, p. 298. New name for *Orthostylus* Lutz and Neiva, not *Orthostylus* Beck 1837 *Mollusca*. Type *ambiguus* Lutz and Neiva 1914.
- Phaeoneura* 1909a, p. 645, defined in key and with *basilaris* Wied. sole species. 1909c, p. 29, with *basilaris* Wied. in list. 1911b, with *basilaris* in list (in German translation the name is *Phaeomyia*, evidently a *lapsus*).
- Phaeotabanus* 1913b, defined in key. 1914a, in list with *litigiosus* Walk., *aphanipterus* Wied. Type *Tabanus litigiosus* Walk. 1850 (Bequaert 1924).
- Poecilosoma* 1909c, in list with *punctipenne* Macq., *quadripunctatum* Macq., *histrion* Wied., and *cinereum* Wied. 1911a, same species. 1913b, defined in key. Type *Tabanus quadripunctatus* Fab. 1805 (Bequaert 1924). (The name is four times preoccupied).
- Poeciloderas* 1921, in list with "*quadripunctatum*". Type *T. quadripunctatus* Fab. 1805 (Borgmeier 1933).
- Poecilochlamys* 1922, briefly defined and in key. 1928, in list with *quadripunctatus* Fab. Type *T. quadripunctatus* Fab. (Borgmeier 1933). The key is the same as the 1913 key, and this name replaces *Poecilosoma* in it.
- Pseudocanthocera* 1913b, in key, no species. 1914a, in list with *marginata* Macq., *Silveirii* Macq. Type *Silvius Sylveirii* Macq. 1838 (Enderlein 1925).
- Plesiophthalmus* 1911a (not seen), with *fenestratus* Lutz undescribed. Monotypic. Nomen nudum. Preoccupied by Motschoulsky 1858 *Coleopt.* (Borgmeier 1933).
- Pseudoscione* 1918, in list as *Pseudoscione longipennis* Ricardo. No description. 1928, p. 54, proposed for *Diatomineura longipennis* Ricardo and an unnamed species from Ecuador. Species said to resemble *Scione* but have venation like *Diatomineura*. No statement that genus is proposed as new. Genotype *Diatomineura longipennis* Ricardo 1902 here designated.

Rhabdotylus 1909c, p. 29, with *viridiventris* Macq. and *planiventris* Wied. 1913b, defined in key. 1914a, with *viridiventris* Macq. in list. Type *T. planiventris* Wied. 1828 (Bequaert 1924).

Stenotabanus 1913b, defined in key. 1914a, with *taeniotes* Wied. in list. Type *T. taeniotes* Wied. 1828 (Bequaert. 1924).

Stictotabanus 1914, in list with *anonymous* n. sp. and *maculipennis* Macq. 1918 in list with *conspicuus* n. sp., no description. 1922, defined as having unicolorous eyes and a spot on the transverse veins; no species. Borgmeier 1933 gives type as *T. maculipennis* Macq. 1834, but this is unjustified, as there are two Macquart species of this name and Lutz did not specify. See also Bequaert 1924, Enderlein 1925. *Maculipennis* Macq. is invalid. (nec Wied. 1828). The name is very doubtfully valid.

Stigmatophthalmus 1909c, with *altivagus* n. sp. in list. 1911a. (not seen). 1913a, with *altivagus* n. sp. descr. and fig. Monotypic.

BIBLIOGRAPHY

BEQUAERT, J.

1924. Notes upon Surcouf's treatment of the Tabanidae in the Genera Insectorum and upon Enderlein's proposed new classification of this family. *Psyche* 31 (1):24-40.

BORGMEIER, T.

1933. A proposito da nomenclatura dos Tabanidae da regio neotropica. *Rev. Ent.* 3 (3):286-303.

BEQUAERT, J. AND RENGIFO, S.

1946. The Tabanidae of Colombia. *Psyche*, 53 (3-4):52-88.

CHAGAS, C.

1925. Bibliography of Lutz. *Mem. Inst. Osw. Cruz.* 18(1):VII-XXII
Supplements were issued in 1929 and 1934 but do not appear to have been published in the *Memorias*.

ENDERLEIN, G.

1922. Ein neues Tabanidensystem. *Mitt. Zool. Mus. Berlin*, 10(2):333-351.

1925. Studien an blutsäugenden Insekten. 1. Grundlagen eines neuen Systems der Tabaniden. *Mitt. Zool. Mus. Berlin* 11(2):1-409.

KROBER, O.

1932. Bermerkungen über die Systematik der neotropischen Tabaniden, Bestimmungstabelle der Subfamilien und Gattungen. *Rev. Ent.* 2(2):185-202.

1934. Catalogo dos Tabanidae da America do sul e Central incluindo o Mexico e as Antilhas. *Rev. Ent.* 4(2-3):222-276 and 291-333.

LUTZ, A.

1905. Beitrage zur Kenntniss der brasilianischen Tabaniden. *Rev. Soc. Sci. Sao Paulo*, No. 1, pp. 19-32. June.

LUTZ, A.

1906. Beiträge zur Kenntniss der brasilianischen Tabaniden. Zweite Mittheilung. Rev. Soc. Sci. Sao Paulo, No. 3-4, pp. 1-4 (Separatabdruck).

LUTZ, A.

1907. Bemerkungen über die Nomenclatur und Bestimmung der Brasilianischen Tabaniden. Zentralblatt f. Bakteriologie, Abt. 1, Vol. 44, pp. 137-144. Some specific synonymies, no new names.

LUTZ, A. AND NEIVA, A.

1909. *Erephopsis auricincta*, uma nova motuca da subfamilia *Pangoninae*. Mem. Inst. Osw. Cruz, 1 (1):12-13, Pl.1.

LUTZ, A. AND NEIVA, A.

- 1909.a Contribuições para o conhecimento da fauna indijena de Tabanidas. Mem. Inst. Osw. Cruz, 1 (1): 28-32. April. (in Portuguese and German).

LUTZ, A.

- 1909b Tabaniden Brasiliens und einiger Nachbarstaaten. Zool. Jahrb., Suppl. X, heft 4, pp. 619-692, pl. 1-3, August.

LUTZ, A.

- 1909c Instituto Oswaldo Cruz en Manguinhos, Rio de Janeiro, Collecção de Tabanidas, pp. 28-30.

LUTZ, A.

1910. Notas dipterologicas. Mem. Inst. Osw. Cruz, 2:58-59.

LUTZ, A.

- 1911a (list of Tabanidae) in "Internationale Hygiene-Ausstellung, Dresden 1911, Institut Oswaldo Cruz, Manguinhos, Rio de Janeiro, Brasil", pp. 33-35. (Not seen. According to Borgmeier this is a reprinting of the 1909c brochure, with some changes, in which the new generic names are credited to Lutz).

- 1911b Novas contribuições para o conhecimento das Pangoninas e Chrysopinas do Brazil. Mem. Inst. Osw. Cruz, 3 (1):65-85, Pl. 4.

LUTZ, A.

1912. Commissao de Linhas Telegraphicas Estrategicas de Matto Grosso ao Amazonas. Anexo 5, Historia Natural, Zoologia. Tabanideos. pp. 1-9, 1 plate.

LUTZ, A.

- 1912a Contribuição para o estudo da biologia dos dipteros hematofagos. III Sangue verde em Tabanidas e outros dipteros. Mem. Inst. Osw. Cruz. 4 (1):79-81.

LUTZ, A.

- 1913a Tabanidas do Brazil e de alguns Estados visinhos. Mem. Inst. Osw. Cruz. 5 (2):142-191, pl. 12-13.

- 1913.b Sobre a systematica dos tabanideos, subfamilia tabaninae. Brazil Medico, No. 45, 1 December 1913. (reprint pp. 1-7).

LUTZ, A.

1914. Notas Dipterologicas. Contribuição para o conhecimento dos primeros estados de tabanideos brasileiros. Mem. Inst. Osw. Cruz, 6 (1) 43-49.

- LUTZ, A. AND NEIVA, A.
1914a As "Tabanidae" do Estado do Rio de Janeiro. Mem. Inst. Osw. Cruz, 6 (2):69-80.
- LUTZ, A.
1914b Sobre a sistematica dos tabanideos, sub-familia tabaninae. Mem. Inst. Osw. Cruz, 6 (3):163-168.
- LUTZ, A. AND MACHADO, A.
1915. Viagem pelo rio S. Francisco e por alguns dos seus afluentes entre Pirapora e Joazeiro. Mem. Inst. Osw. Cruz. 7 (1):5-50, (List of Tabanidae pp. 46-47).
- LUTZ, A.
1915a Tabanidas do Brazil e de alguns Estados visinhos. Segunda Memoria, Mem. Inst. Osw. Cruz. 7 (1):51-119, Pl. 19-21.
- LUTZ, A., ARAUJO, H. C. DE SOUZA, AND FONSECA, FILHO, O. DA.
1918. Viagem scientifica no rio paran  e a Assuncion, com volta par Buenos Aires, Montevideo e Rio de Janeiro. Mem. Inst. Osw. Cruz, 10 :104-199.
- LUTZ, A.
1921. Motucas de Guaratuba. Boletim do Inst. Osw. Cruz, Suplemento dos Memorias, 1 p. 15.
- LUTZ, A.
1922. Zoologia Medica. Tabanidae ou Motucas. Publica o Separada da Folha Medica, Rio de Janeiro, pp. 1-17.
- LUTZ A. (AND NUNEZ TOVAR)
1928. Estudios de Zoologia y Parasitologia Venezolanas. Rio de Janeiro, December. (pp. 51-64 and Pl. 8-9 deal with *Tabanidae* and are to be credited to both authors).
- LUTZ, A.
1931. Sur *Tabanus importunus*. Comptes Rend. Soc. Biol. Rio de Janeiro, 109:751.
- LUTZ, A. AND CASTRO, G. M. DE O.
1935. Sobre algumas novas especies de motucas do genero *Esenbeckia* Rondani. Mem. Inst. Osw. Cruz 30(3):543-562.
- LUTZ, A. AND CASTRO, G. M. DE O.
1936. Consideracoes sobre especies affines do genera *Melpia* Walker (1850) e descrip o de um genero novo e duas especies novas. Sobre duas especies novas do genero *Fidena* Walker. Mem. Inst. Osw. Cruz. 31(1):169-183.
- LUTZ, A. AND CASTRO, G. M. DE O.
1937. Sobre uma especie nova do genero *Laphriomyia* Lutz, e descrip o do macho de *L. mirabilis* Lutz. Mem. Inst. Osw. Cruz. 32 (2):231-233.